INSTRUCTIONS

PENNEY'S

SEWING MACHINE

Automatic Zig Zag

MODEL 701

J. C. PENNEY COMPANY, INC.

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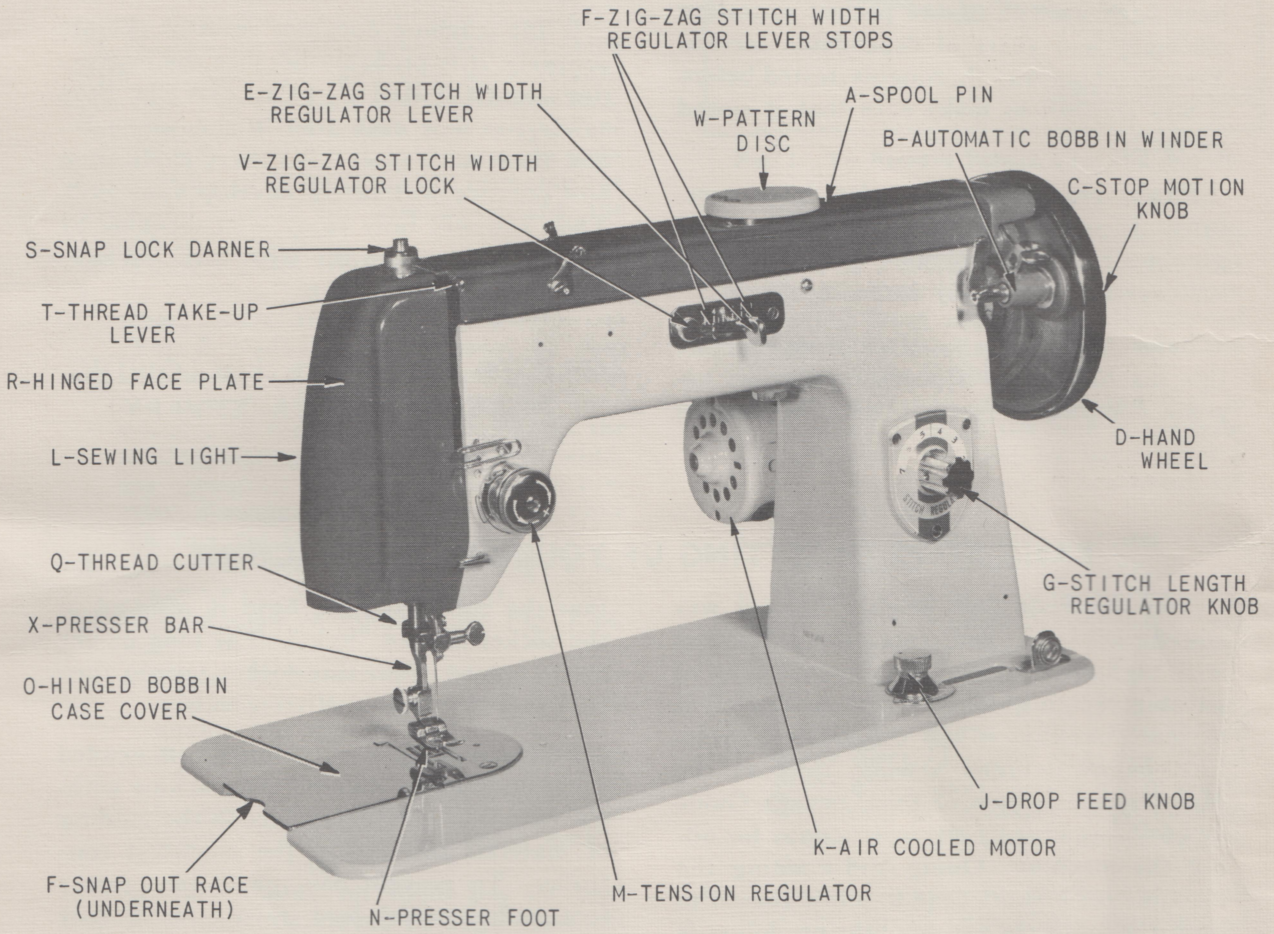

F-ZIG-ZAG STITCH WIDTH REGULATOR LEVER STOPS
E-ZIG-ZAG STITCH WIDTH REGULATOR LEVER
W-PATTERN DISC
A-SPOOL PIN
B-AUTOMATIC BOBBIN WINDER
V-ZIG-ZAG STITCH WIDTH REGULATOR LOCK
C-STOP MOTION KNOB
S-SNAP LOCK DARNER
T-THREAD TAKE-UP LEVER
R-HINGED FACE PLATE
D-HAND WHEEL
L-SEWING LIGHT
Q-THREAD CUTTER
G-STITCH LENGTH REGULATOR KNOB
X-PRESSER BAR
O-HINGED BOBBIN CASE COVER
J-DROP FEED KNOB
K-AIR COOLED MOTOR
F-SNAP OUT RACE (UNDERNEATH)
M-TENSION REGULATOR
N-PRESSER FOOT

INTRODUCTION TO YOUR ZIGZAG SEWING MACHINE

Your new zigzag sewing machine is the product of many years of research and development in the field of household sewing machines. The highest quality materials have been used to assure perfect operating efficiency and years of dependable service. Your machine was thoroughly tested before it was shipped to make sure that it sewed perfectly.

Please read this instruction book carefully. If you follow these instructions and give your sewing machine proper care, it will operate accurately for many years.

Before you actually attempt to operate this machine, it is important that you become completely familiar with its various features, controls and adjustments. The time you spend learning about your machine will repay you over and over in satisfaction and enjoyment of its performance.

If the machine does not seem to operate properly, it is probably because the instructions are NOT BEING FOLLOWED. Stop sewing, review each step in this manual—and then start again. Patience, application and practice will surely develop your skill. Then you will fully enjoy your machine by accomplishing even the most intricate sewing within a short time.

PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY!

BASIC STEPS IN SETTING UP YOUR SEWING MACHINE

Your precision built sewing machine was tested, adjusted and carefully lubricated with high grade sewing machine oil prior to packing. High grade sewing machine oil is of low viscosity, it can evaporate. Therefore, before actually sewing, refer to the Maintenance section of this Owner's Guide and follow carefully the instructions for oiling the machine. Oiling and running the machine for a short time to allow the oil to properly lubricate various bearing points is essential for proper operation and ease of running.

This same procedure should be followed if your machine has remained idle for a considerable length of time as it is possible for the oil to evaporate sufficiently to actually produce friction in the bearings and hard running until it has been properly lubricated and operated for a short time.

Connect the two electrical plugs to the electrical socket in the base of the portable case, or on the inside right hand panel of the cabinet on console models. NOTE: Be sure that the cord from the motor is inserted in the socket labeled "motor" and that the cord from the light is inserted in the socket labeled "light". The plug on the cord running from this socket should then be inserted in the wall receptacle.

Before actually sewing, it is recommended that you practice running the machine without thread to gain experience in the guiding of material and use of the electrical controller. To prevent damage to the presser foot and material feed, raise presser foot by means of the presser foot lever. Place cloth under presser foot and lower presser foot by lowering presser foot lever. Cloth is then in position for sewing. Turn on electric current by pressing lever of foot or knee controller. The speed of the machine is regulated by the amount of pressure exerted on the controller. Practice running material thru machine, forward and backward, by pushing in and releasing reverse button, (G) Page 2. Let the machine do the work — do not pull on the cloth as you may break or damage the needle. NOTE: Hand wheel must always turn towards you. After practicing, follow the instructions below for threading and actual operation.

HOW TO PREPARE YOUR MACHINE FOR SEWING

REMOVING BOBBIN CASE AND BOBBIN

See Page 2 for Lettered Parts of Machine

Turn the hand wheel (D) toward you until the take-up lever (T) is at its highest point. Raise hinged bobbin case cover (O). To remove the bobbin case, open the latch with the forefinger and pull latch toward you (see Fig. 1). Now use thumb and forefinger and pull the bobbin case out toward you. While the latch is held open, the bobbin is retained in its case. On releasing the latch and turning the case downward, the bobbin will drop out.

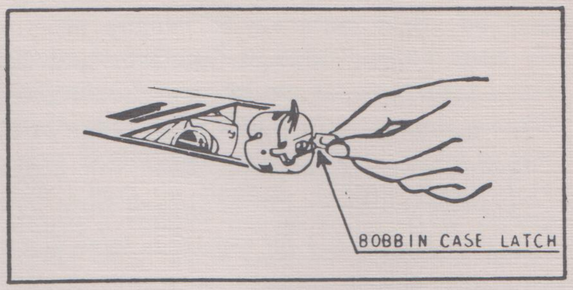


Fig. 1. To Remove Bobbin Case and Bobbin

WINDING THE BOBBIN

1. To wind the bobbin disconnect the hand wheel from the stitching mechanism (Fig. 7, Page 5). By turning the stop motion knob (Fig. 7) toward you with the right hand (while holding the hand wheel with the left hand) disconnect the sewing mechanism for the bobbin winding operation. This is necessary to prevent damage to your machine while winding the bobbin.
2. Lower the presser foot (N) Page 2, by lowering the presser foot lever.
3. Now proceed as follows (see Fig. 2 below):
   a. Place the bobbin (C) on the bobbin winder spindle (D) and push it firmly against the spindle holder.
   b. By pressing the bobbin winder lever (F), the bobbin winder spool is brought into contact with the hand wheel. To lock, press down until a "click" is heard.
   c. Place thread on spool pin on back of arm, run thread through back and front thread guides (A) and down through the discs (E).
   d. Put thread through any hole in left side of bobbin from the inside out leaving 8 to 10 inches of thread projecting from the bobbin. No thread should be allowed to catch over the edge of the bobbin.
   e. The loose end of the thread that is threaded through the hole in the bobbin should be held by hand until a few coils are wound. Then break off the loose end.
   f. Now use the electric controller in the same manner as when sewing.
   g. When the bobbin is completely wound, the bobbin winder release latch (B), disengages the bobbin winder automatically.
   h. If bobbin does not wind evenly, loosen the screw holding the thread guide discs (E), and slide the thread guide disc bracket to the left or right, whichever is necessary to produce an evenly wound bobbin. Then re-tighten the screw.
4. Caution: Do not wind the bobbin so full that the thread rises above the sides of the bobbin.

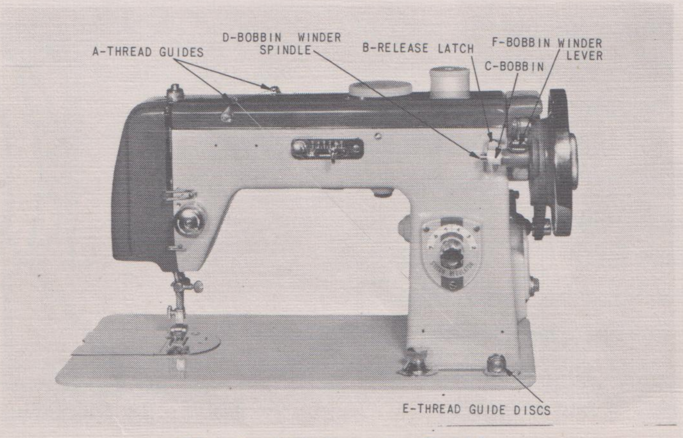


Fig. 2. Winding the Bobbin

THREADING THE BOBBIN CASE

Step 1 (illustrated in Fig. 3): Hold bobbin case between thumb and forefinger of left hand, so that the slot in the edge of the bobbin case is on top. Take the bobbin between thumb and forefinger of right hand so that the thread on top leads from left to right.

Step 2: Insert bobbin into bobbin case, pull the thread into the slot of the bobbin case as shown in Fig. 4, and draw it under the tension spring and into the fork-shaped opening of the spring as shown in Fig. 5.

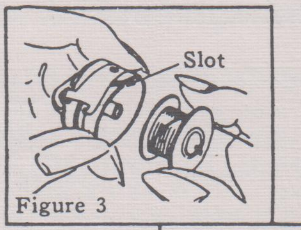


Figure 3

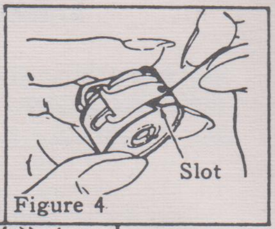


Figure 4

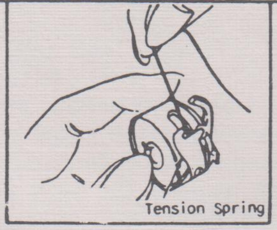


Fig. 5. Tension Spring

REPLACING BOBBIN CASE IN SHUTTLE BODY

Refer to Fig. 6 on This Page

After completing the threading operation, hold the bobbin case latch (D) between the thumb and forefinger of the left hand, with at least 3 inches of thread running from the top of the bobbin case to the right. Insert and center the bobbin case on the stud of the shuttle body (C). Be sure the bobbin case finger (E) is opposite shuttle race notch (A). Press the bobbin case into the shuttle as far as possible until latch catches on the center post of shuttle. THEN release the bobbin case latch (D). Press bobbin case again after latch has been released to make sure the bobbin case is locked securely in place. Close the hinged bobbin case cover in the bed of the machine.

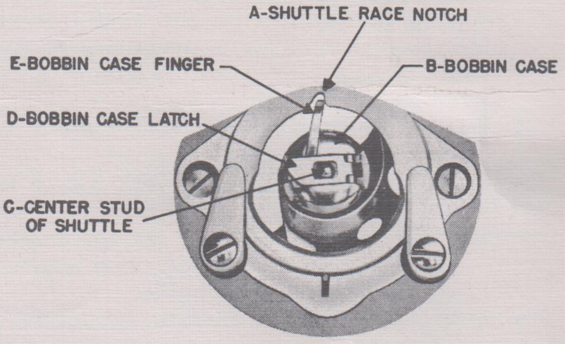


Fig. 6. Replace Bobbin Case

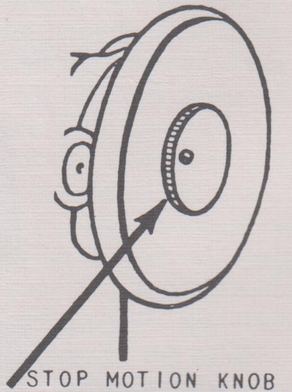


Fig. 7. To Disconnect the Sewing Mechanism

SETTING THE NEEDLE

Select a needle to fit the material to be sewn. See Chart on Page 7. To set needle in needle clamp, turn the hand wheel toward you until the take-up lever, (T) Page 2, reaches its highest position. Loosen thumb screw, Fig. 8, located on the needle clamp. BE SURE THE FLAT SIDE OF SHANK OF THE NEEDLE IS PLACED TOWARD THE RIGHT, OR TOWARD THE INSIDE OF MACHINE. See Fig. 8. Now insert the needle in the clamp as far as it will go and retighten thumb screw. This machine uses needles classified as AA, J, or 15x1 which can be obtained in various sizes for different size threads and purposes. See Chart on Page 7.

It is important that the proper size of thread be used. Make certain that the same size and quality of thread is used in both the upper spool and the bobbin. This will prevent faulty sewing. "Bargain" thread is poor economy. In many cases, such thread has tiny knots which interfere with the free flow of the thread through the threading mechanism and needle. High quality thread is most desirable to achieve perfect sewing results.

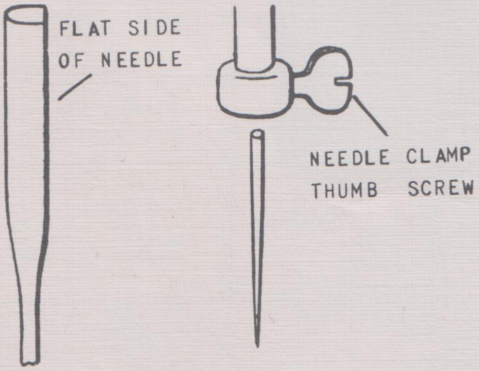


Fig. 8. To Set the Needle

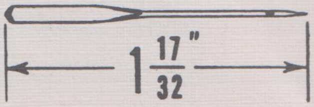
CHOOSING NEEDLE AND THREAD

The quality of the seam made by your sewing machine depends largely upon the proper selection of needle and thread size. Both should be matched as closely as possible to the type of fabric you intend to sew. See Chart on Page 7. Heavy material requires a thicker needle and coarser thread, while finer fabric calls for a thinner needle and finer thread. Using a needle that is too thick will leave marks on the cloth. A needle which is too thin will not allow the thread to pass freely through the eye of the needle.

Always make sure that the needle in your machine is not bent and does not have a blunt or hook-shaped point.

It is highly important that the correct SIZE of needle be chosen for the sewing to be done. Refer to Chart on Page 7. This Chart, in fact, indicates the proper SIZE of needle for various types of sewing.

Important: When purchasing replacement needles, make certain that they are the correct LENGTH. The diagram below shows the correct LENGTH (1$\frac{17}{32}$") to scale. If a needle is used which is not of the correct LENGTH, it is impossible to secure perfect sewing results. In fact, a needle of incorrect LENGTH will cause endless trouble.



Exact Length of Needle

NEEDLE AND THREAD SIZES

CODE		TYPE OF FABRIC AND WORK TO BE DONE	Size of Thread		
Universal	International		Cotton	Silk	Linen
0 Fine	9	Delicate fabrics like Georgette, chiffon, batiste, fine lace, linen and other sheer fabrics. For fine lingerie, infants clothes and fine lace work.	100-150	00 and 000 Twist	
B Medium - Fine	11	Medium light-weight and summertime fabrics. For house dresses, children's dresses, washable cotton dresses, aprons, curtains, etc.	80-100 or Mercerized	0 Twist	
½ Medium	14	Dress silks and cottons, light weight woolens, draperies, fabric furnishings. For general household sewing, fine men's shirts, smocks, window draperies and fabric decorations.	60-80 or Mercerized	A & B Twist	
1	16	Heavy cretonne, muslin, brocades and quilts. For men's work shirts, fabric furnishings, etc.	40-60 or Heavy Duty Mercerized	C Twist	
2 Medium - Heavy	18	Heavy woven coating, light weight canvas, bed ticking, upholstery and awning materials, and slipcover fabrics.	30-40	D Twist	
3 Heavy	19	Heavy woven suiting, coating, duck ticking, drilling, canvas and sacking .	24-30	E Twist	60-80

THREADING THE MACHINE

NOTE: IF YOUR MACHINE IS NOT THREADED CORRECTLY, IT WILL NOT SEW PROPERLY.

Turn the hand wheel toward you until the needle is raised to its highest position. Place a spool of thread on the spool pin, located on the back or rear of the arm. See Fig. 9 for the following letters:

1. Pass the thread through the back thread guide (A). Bring the thread over the arm and through front thread guide (B).
2. Draw the thread downwards to, and around between the tension discs (C), from right to left.
3. Now place the thread on the guide notch (D) at the top of the tension dial (see Fig. 38).
4. Bring the thread back down and under the check spring (E) and up through the large hook (F).
5. Pass the thread through the hole at the end of the take-up lever (G) from right to left.
6. Draw the thread down through the large hook (F), the thread guide (H) and the needle clamp guide (I).
7. Now pass the thread through the eye of the needle from left to right. Draw about 3 inches of thread through the eye of the needle. This is the length necessary to begin sewing.

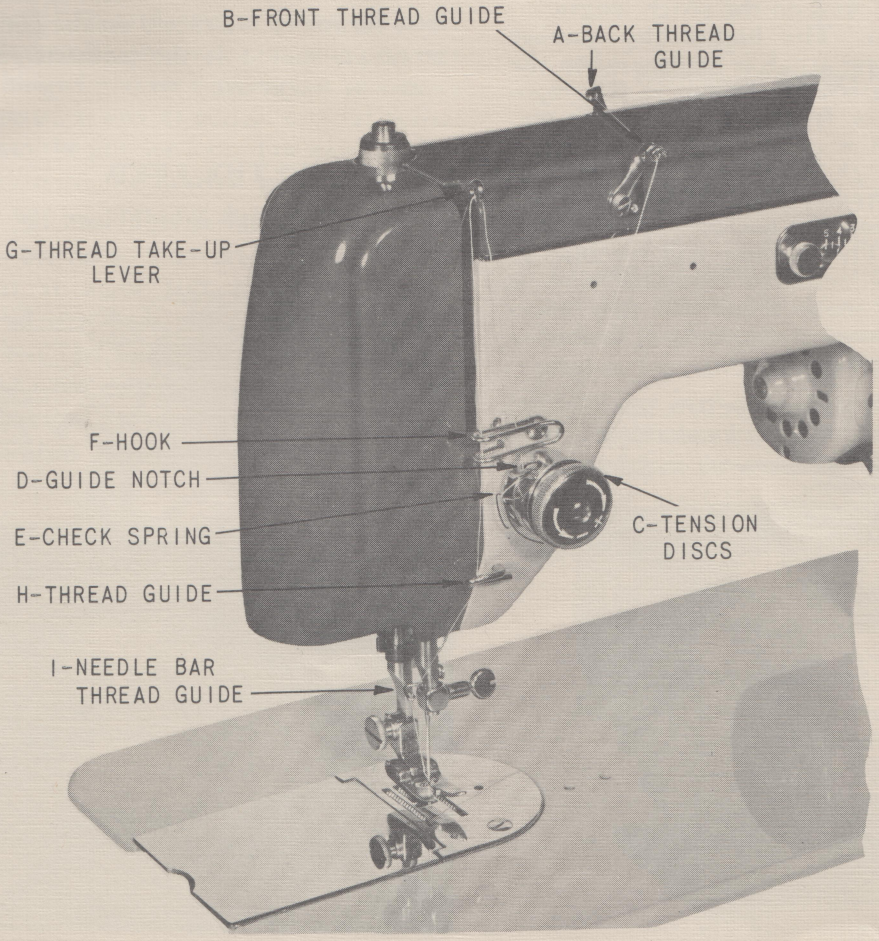

B-FRONT THREAD GUIDE
A-BACK THREAD GUIDE
G-THREAD TAKE-UP LEVER
F-HOOK
D-GUIDE NOTCH
E-CHECK SPRING
C-TENSION DISCS
H-THREAD GUIDE
I-NEEDLE BAR THREAD GUIDE

Fig. 9. Upper Threading

STRAIGHT SEWING

SETTING ZIGZAG LEVER FOR STRAIGHT SEWING

See Fig. 10

For all straight sewing set the zigzag stitch width regulator lever (B) at "0." Move stitch width regulator lever stop (D) close against lever (B) and lock in position by tightening thumb screw lock (C). Place straight stitch pattern disc, (A) Fig. 20, on ratchet shaft, (B) Fig. 20.

REGULATING DIRECTION OF FEED

See Fig. 10

When you desire to feed the material from the front to the rear of the machine, turn the stitch length regulator knob F to any number from 1 to 8 on the stitch length indicator dial G. The higher the number dialed, the longer stitch is made. When the feed of the material is desired in the opposite direction, or from the rear of the machine toward the operator, push in all the way on the stitch length regulator knob F. This allows reversal of the direction of feed without stopping the machine or removing the material. The machine will continue to feed in reverse until the regulator knob is released. This permits fast and easy backtacking for fastening the ends of seams so they will not ravel.

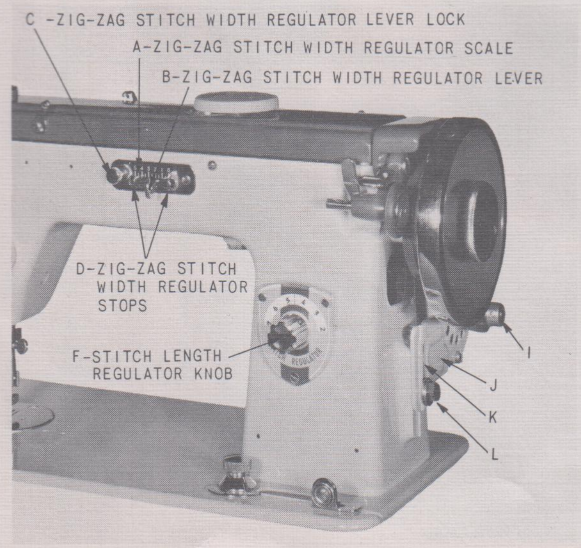

C -ZIG-ZAG STITCH WIDTH REGULATOR LEVER LOCK
A-ZIG-ZAG STITCH WIDTH REGULATOR SCALE
B-ZIG-ZAG STITCH WIDTH REGULATOR LEVER
D-ZIG-ZAG STITCH WIDTH REGULATOR STOPS
F-STITCH LENGTH REGULATOR KNOB
I
J
K
L

Fig. 10. Stitch Regulator

REGULATING LENGTH OF STITCH

See Fig. 10

This machine can be adjusted to make from six to thirty stitches per inch. If you desire the shortest stitch (30 per inch) turn the stitch length regulator knob F to between the first and second mark to the left of 0 on the indicator dial G. If the longest possible stitch is desired (6 per inch) turn the regulator knob to indicate number 8 on the dial. To make the same length stitch in reverse sewing, simply press in all the way on the regulator knob F and the machine will sew in reverse until pressure on the knob is released. When the regulator knob F is turned to indicate 0 on the dial G there is no movement of the material either forward or backward.

DROPPING THE FEED

For all normal straight sewing, the drop feed knob, Fig. 11, must be turned to "Feed" position. When this knob is turned to "Drop" position, the feed will be lowered from the needle plate and will not feed the material. Do this for the purpose of embroidering. To commence normal sewing again, turn knob to "Feed" position.

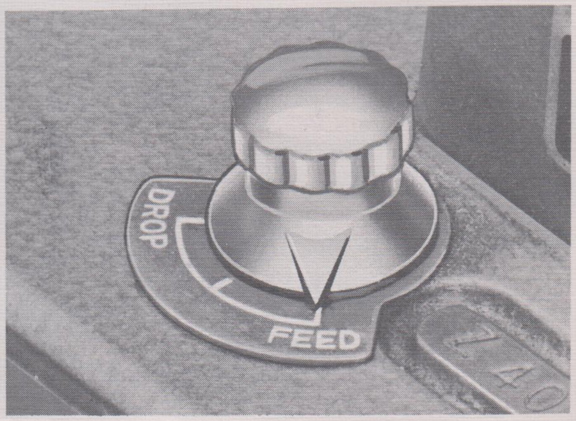


Fig. 11. To Drop the Feed

REGULATING PRESSURE ON MATERIAL

See Fig. 12

For normal sewing, press snap-lock (A) to lowest position. Pressure regulation is seldom required. However, for sewing silk, or very light material, the pressure can be lightened by pressing the snap-lock (A) to the mid position. Pressure is entirely released when snap-lock is at its highest position—press snap-lock release (B). Increased pressure is accomplished by pressing snap-lock (A) completely down. Always remember, the heavier the material—the heavier the pressure; the lighter the material—the lighter the pressure.

For mending or darning: Press the snap-lock release (B), thus releasing the pressure on the hinged presser foot so you can move the material in any direction without resistance from the presser foot. For normal sewing, return to the desired pressure on the presser bar by pressing down on snap-lock.

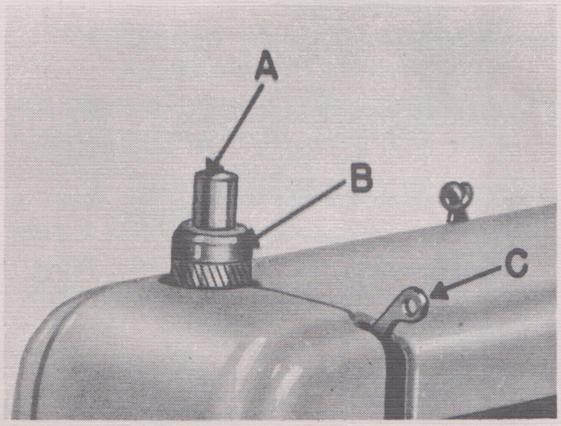


Fig. 12. Regulating Pressure on Material

PREPARING FOR SEWING

See Fig. 13

Raise the presser bar. Hold end of needle thread loosely in the left hand. Then with the right hand, turn the balance wheel toward you until the needle has moved down and up again to its highest position. In this operation, the needle thread will catch the bobbin thread and draw it up through the hole in the needle plate.

With the left hand, pull up the needle thread to expose the bobbin thread. Take both threads with your hand and draw them, under the presser foot toward rear of machine. Now place material to be sewn under presser foot and lower the presser foot.

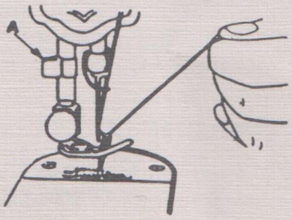


Fig. 13. To Prepare for Sewing

When the presser bar is in the down position the thread should extend toward the back of the machine between the toes of the presser foot and should be firmly held between the feed and the presser foot. Once the material and threads are in position with presser foot lowered on material, you are ready to start the actual sewing operation.

NOTE:

1. Have take-up lever, (C) Fig. 12, at highest point before starting the sewing operation.
2. Do not try to help the feeding of the work by pulling the material as this may deflect the needle and cause it to break. The machine feeds without assistance.
3. After threading, NEVER run machine without material between presser foot and the feed.

BEGINNING TO SEW

After threading the machine, place material and threads in position under the presser foot and lower the presser foot. With your right hand, turn the top of the hand wheel, (D) Page 2, toward you until the take-up lever (C) Fig. 12 is at its highest point. You are now ready to begin sewing. By having the take-up lever at its highest point, it is never necessary to touch the hand wheel to start the machine. You merely press the foot control (portable models) or knee control (cabinet models). The speed of the machine is regulated by increasing or decreasing the amount of pressure exerted on the control.

REMOVING THE WORK

Be sure to stop the machine when the thread take-up lever, (T) Page 2, is located at the highest position. Now raise the presser foot and draw the fabric backward and to the left, passing the threads over the thread cutter, (Q) Page 2. Pull down slightly holding thread in both hands—so as not to bend the needle—and the threads will be severed. NOTE: Leave the ends of the thread under the presser foot.

TURNING THE CORNERS

Stop the machine while needle is still in material. Now raise presser foot and, using needle as a pivot, turn material in the direction desired. Lower the presser foot and you are ready to continue sewing.

TACKING

Turn the stitch length regulator knob F Figure 10 to indicate the desired length of stitch. To tack or reinforce a seam, push in on the regulator knob and release quickly, twice only, while the machine is running at about normal sewing speed.

BASTING

Set stitch length regulator knob at the longest stitch length (See instructions on Page 9). Machine is now ready to sew a basting stitch. Operate the machine in the regular manner.

To remove basting stitch, clip every 5th or 6th stitch with scissors. Bottom thread can then be pulled out easily.

DARNING—See Fig. 14

1. Attach darning foot with arm (A) at the back of needle clamp (B).
2. Release completely the snap lock darner, Fig. 12. Turn drop feed knob, Fig. 11, to "DROP" position. Machine is now ready for darning.
3. Place the material under the darning foot, and lower the presser bar.
4. To darn, hold the material firmly against the bed of the machine and while operating the machine move the material forward and backwards with an even motion commensurate with the speed of the machine. Fill the hole or tear with new stitches. After the hole is filled with new stitches, move the material from side to side in a similar manner to weave or reinforce the stitching.

   CAUTION: Be sure to keep fingers out of the path of needle to avoid injury.
5. To resume normal sewing be sure to reset the pressure on the presser bar by pushing down on the snap lock darner, and return drop feed knob to "FEED" position.

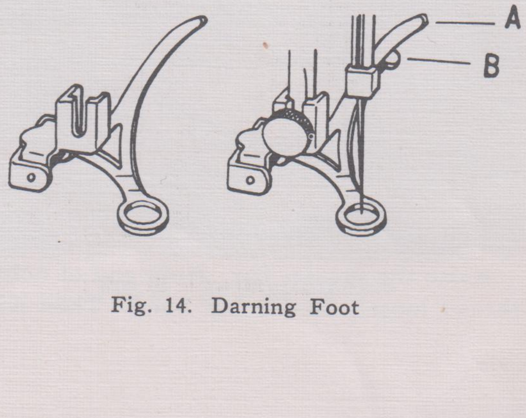


Fig. 14. Darning Foot

STRAIGHT STITCH EMBROIDERY

1. Attach darning foot, Fig. 14, with arm (A) at the back of needle clamp (B). Place straight stitch pattern disc on machine.
2. Release pressure on the snap lock darner, Fig. 12, by pushing down on release (B).
3. Turn drop feed knob, Fig. 11, to "Drop" position.
4. Place material, on which embroidery design has been drawn or stamped, between two frames of an embroidery hoop and stretch the material tightly.
5. Place the hoop and material under the darning foot and lower the presser bar.
6. Hold the hoop with both hands firmly against the machine bed. Hold the material within the hoop against the machine bed with index fingers of both hands. Caution: Be sure to keep fingers out of the path of needle to avoid injury.
7. Operate the machine at a fast speed and move the hoop as you sew, allowing the needle to follow the design as you would write with a pencil.
8. To resume normal sewing be sure to:
   - A. Replace darning foot with regular zigzag foot.
   - B. Push down on snap lock darner (A) Fig. 12.
   - C. Turn drop feed knob to "Feed" position.

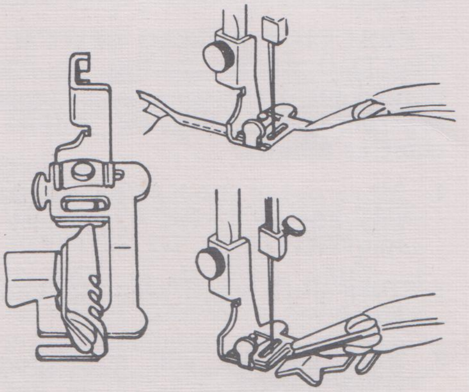


Fig. 15. Multiple Slot Binder

BINDING—See Fig. 15

The multiple slot binder is attached in the same manner as the regular presser foot. The binder has three slots on the side of the cone shaped scroll to hold various sizes of commercial folded bias tape. The larger opening at the end will hold 15/16" binding.

Binding should be cut to form a point and placed in the proper size slot or the end opening. The material to be bound is placed in the slot in the center of the cone shaped scroll and must be held in this position.

When the binding and the material to be bound have been properly placed in the binder and pulled through to the needle point, set the machine for a straight stitch, lower the presser bar and sew in the normal manner. The binder will turn under the edges of the binding and cover the edge of the material to be bound, all in one operation. Binder is adjustable and can be moved to allow sewing as close to the edge of the binding as may be desired.

SEWING ZIPPERS AND CORDING—See Fig. 16

Replace the regular presser foot with the combination zipper and cording foot. Set the machine for a straight stitch. Loosen the thumb screw on the horizontal bar and slide the zipper foot to the right or left of the needle and position so that the needle will stitch close to the edge of either the right or left side of the zipper or cording. A quilting guide bar is attached to the zipper foot and is adjustable to provide uniform spacing between rows of stitches when quilting.

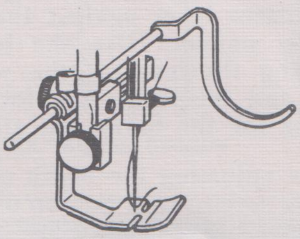


Fig. 16. Zipper and Cording Foot

ZIGZAG SEWING

The creative possibilities with zigzag sewing are endless. Zigzag sewing is a real pleasure because it is a challenge to one's creative instincts. Intricate designs are no longer complicated with your automatic zigzag sewing machine. Study your operating instructions carefully and you will be amazed at the enormous scope of zigzag sewing and how easily it is mastered.

Make it a habit to test types of stitches before starting to sew on a finished item. Once you have obtained the effect you desire, you can sew relaxed, confident that you will be pleased with the results.

ADJUSTING THE LEVERS FOR ZIGZAG SEWING

The zigzag stitch width regulator lever, (B) Fig. 17, is used for adjusting the zigzag stitch to any desired width. When the lever is set at No. 0 the needle will not move sideways at all, and the machine will sew the normal straight stitch. The farther the lever is moved to the left, the wider the zigzag stitch. When the lever is set at No. 5, the machine will sew the widest zigzag stitch.

For sewing a zigzag stitch of a fixed width, the zigzag stitch width stops should be positioned on either side of the stitch width regulator lever. Select the proper width of zigzag stitch. Then retain the zigzag stitch width regulator lever at this point by positioning the zigzag stitch width lever stops against either side of the lever as follows: Loosen thumb screw lock C, and position the zigzag width stops D, Fig. 17, to either side of the lever B. When stops are in desired position, tighten thumb screw lock.

For decorative sewing where 2 different widths of zigzag stitching are required, the zigzag stitch width stops should be used to enable the operator to obtain the desired width of stitching by manually positioning the regulator lever against the stops in a rhythmic manner. Use the left stop for positioning the lever at the widest stitch desired and the right stop for positioning the lever for the narrowest stitch desired.

Before adjusting the width of the zigzag stitch, be sure to turn the top of the balance wheel toward you to raise the needle; otherwise you may bend or break the needle. You can change the width of the zigzag stitch when the machine is in operation, but when the machine is idle, you must raise the needle.

ZIGZAG CONTROL LEVERS

When you are operating the machine with the power on, you may change any of the levers without fear of breaking the needle.

When machine is not being operated by electricity, be sure that the needle is at its highest position before moving the zigzag stitch width regulator lever.

ZIGZAG STITCHES

Before attempting to make zigzag stitches on a finished product, practice each operation separately until you get the effect you want.

PRACTICE ZIGZAG STITCH ILLUSTRATED AS No. 1—Fig. 18. This wide zigzag stitch is used on blanket binding, stitching narrow ribbons, decorative borders and rick-rack braid. Adjust the machine as follows:

1. Move the zigzag stitch width regulator lever, (B) Fig. 17, to the left as far as it will go—to No. 5, and lock in position with stop (D) and tighten lock (C).
2. Adjust stitch length regulator (F) for the longest stitch—No. 8.
3. Your machine will now produce the widest zigzag stitch possible, illustrated as (1) in Fig. 18.

PRACTICE ZIGZAG STITCH ILLUSTRATED AS No. 2—Fig. 18. This stitch is used for overcasting seams, appliqueing, applying bias binding, etc. Adjust the machine as follows:

1. Move zigzag stitch width regulator lever, (B) Fig. 17, to No. 4, and lock in position.
2. Turn stitch length regulator knob (F) to No. 5.
3. Your machine will now produce the stitch illustrated as (2) in Fig. 18.

PRACTICE ZIGZAG STITCH ILLUSTRATED AS No. 3—Fig. 18. This zigzag stitch is used for appliqueing, joining lace, etc. Adjust your machine as follows.

1. Move zigzag stitch width regulator lever, (B) Fig. 17, to No. 2.
2. Turn stitch length regulator knob (F) to No. 4.
3. Your machine will now produce the zigzag stitch illustrated as No. 3 in Fig. 18.

PRACTICE ZIGZAG STITCH ILLUSTRATED AS No. 4—Fig. 18. This is a very narrow stitch which may be used for stitching arm hole seams or wherever an extra strong seam is desired. Adjust the machine as follows:

1. Move zigzag stitch width regulator lever, (B) Fig. 17, to No. ½.
2. Turn stitch length regulator knob (F) to No. 2.
3. The machine will now produce the zigzag stitch illustrated as No. 4 in Fig. 18.

PRACTICE ZIGZAG STITCH ILLUSTRATED AS No. 5—Fig. 18. This is a very tiny stitch used for fine rolled hems, dainty lace, appliqueing, top stitching bias seams, decorating baby clothes, etc. Adjust the machine as follows:

1. Move zigzag stitch width regulator lever, (B) Fig. 18, to No. 1.
2. Turn stitch length regulator knob (F) to No. 2.
3. The machine will now produce the zigzag stitch illustrated as No. 5 in Fig. 18.

SATIN STITCH

USE HINGED PRESSER FOOT CUTOUT ON BOTTOM OF THE FOOT. The cutout is designed to allow the additional thickness of thread created in embroidery stitching to pass smoothly under the foot.

Before embroidering any of the following stitch patterns, set the stitch width regulator lever (B) Fig. 17, at No. 5, move right hand stop close against lever and lock in position by tightening thumb screw lock (C).

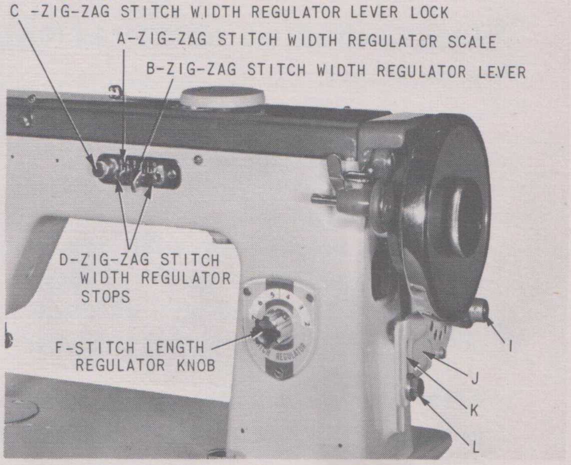

C -ZIG-ZAG STITCH WIDTH REGULATOR LEVER LOCK
A-ZIG-ZAG STITCH WIDTH REGULATOR SCALE
B-ZIG-ZAG STITCH WIDTH REGULATOR LEVER
D-ZIG-ZAG STITCH WIDTH REGULATOR STOPS
F-STITCH LENGTH REGULATOR KNOB
I
J
K
L

Fig. 17. Zigzag Control Levers

Set the stitch length regulator knob (F) as near to 0 as possible, but still permitting the material to feed through the machine from front to back. This will produce a satin stitch which is the basis for all embroidery design. Test the stitching to make certain that the material is feeding properly to produce a good satin stitch as illustrated in Fig. 19 below.

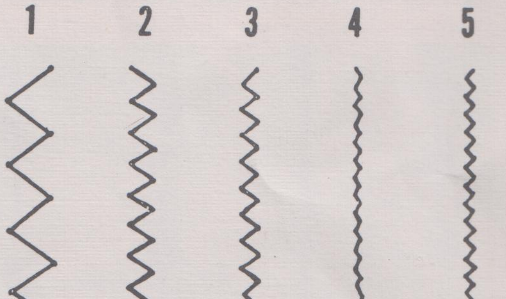


Fig. 18. Zigzag Stitches

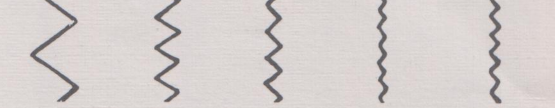


Fig. 19. Satin Stitch

EMBROIDERY

EMBROIDERING AUTOMATICALLY

Your automatic zigzag sewing machine is equipped with 7 different pattern discs plus one straight stitch disc. Each one of the discs when placed on the machine will automatically make one of the patterns shown in Fig. 21. An endless variety of embroidery patterns can be obtained by using a combination of discs and also by using only a portion of the patterns on each disc.

The pattern of stitching which each disc performs is shown on top of each individual disc.

After setting the machine to make a satin stitch, **be sure to loosen thumb screw lock (C) Fig. 17,** choose the disc for the pattern you desire and place the pattern disc on the machine in the following manner:

1. With the left thumb, move the stitch width regulator lever (B) Fig. 17 to No. 5 and hold in position until pattern disc is placed on the ratchet shaft.
2. Hold the disc in the right hand and position the flat on the bottom of the disc (A) Fig. 20, so that when the disc is placed on the ratchet shaft (B), the flat on the disc will slide on the flat side of shaft.

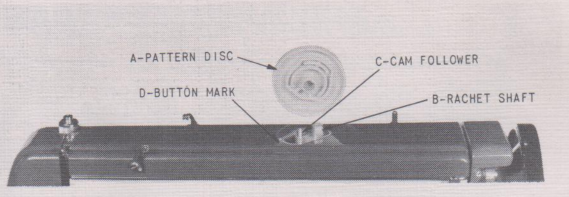


Fig. 20. Inserting Discs

3. Turn the disc counter clockwise by hand until the indicator mark on the disc is in line with the button mark (D) Fig. 20 on the arm of the machine. This will enable the machine to start stitching at the beginning of the pattern.
4. Your machine is now ready to sew. Proceed to sew in the normal manner. CAUTION: Be sure thumb screw lock (C) Fig. 17, is loosened.

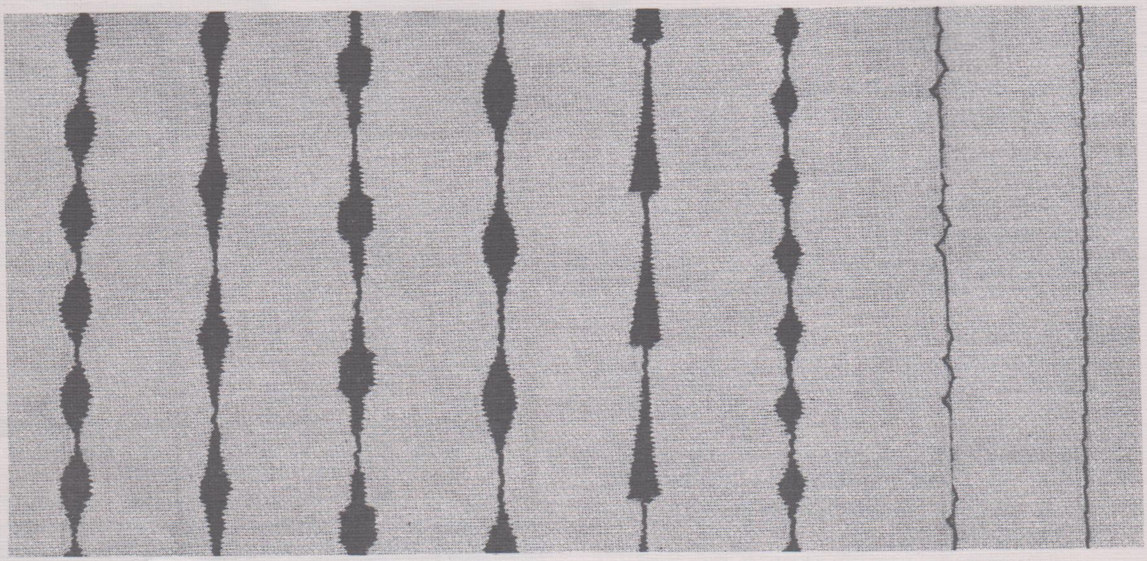


Fig. 21. Automatic Disc Patterns

MONOGRAMMING AND SIGNATURE WRITING

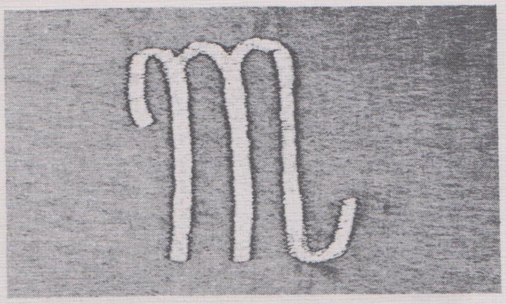


Fig. 22

1. Attach darning foot, Fig. 14, with arm (A) at the back of needle clamp (B). Place straight stitch pattern disc on machine.
2. Release pressure on the snap lock darner, Fig. 12, by pushing down on release (B).
3. Turn drop feed knob, Fig. 11, to "Drop" position.
4. Place material to be monogrammed between two frames of an embroidery hoop and stretch the material tightly.
5. Place the hoop and material under the darning foot and lower the presser bar. Use a NARROW satin stitch. See instructions page 14.
6. Hold the hoop with both hands firmly against the machine bed. Hold the material within the hoop against the machine bed with index fingers of both hands. CAUTION: Be sure to keep fingers out of the path of needle to avoid injury.
7. Operate the machine at a fast speed and move the hoop as you sew, allowing the needle to follow the outline as you would write with a pencil.
8. To resume normal sewing be sure to:
   A. Replace darning foot with regular zigzag foot.
   B. Push down on snap lock darner (A) Fig. 12.
   C. Turn drop feed knob to "Feed" position.

MAKING CUTOUT APPLIQUE WORK

Applique is a design on one fabric which is applied or sewed to another. In the past, it has always been necessary to hand baste the applique design but with your zigzag machine, applique designs are quickly and easily stitched into place. No hand basting is required since the stitch covers the edge neatly. You can use matching or contrasting thread and you can use a large or small zigzag stitch, depending upon size of the design and texture of the fabric.

To stitch the design in place, set the machine as follows:

1. Move zigzag stitch width regulator lever, (B) Fig. 17, to produce the width of zigzag stitch desired.
2. Set stitch length regulator to produce a satin stitch of a close zigzag stitch, whichever you desire.

After design is stitched in place, cut away material along outer edge.

HEMSTITCHING—Fig. 23

1. Pull out threads to the desired width.
2. Move zigzag stitch width regulator lever, (B) Fig. 17, to No. 1 or No. 1½ to produce a narrow zigzag stitch.
3. Set stitch length regulator (F) at No. 4 or No. 5. Stitches should not be too close.
4. Place the edge of the material from which threads have been pulled under the center of the presser foot and sew with the zigzag stitch selected.
5. Check to be sure that the needle bites into the space where the threads have been pulled, as well as into the fabric from which threads have not been pulled.
6. After stitching on one side of the open space is completed, reverse the material and repeat the stitching on the other side.
7. If you prefer a picot edge, cut off the pulled threads close to the outer point of the zigzag stitching. A picot edge is often used on scarfs, handkerchiefs, lamp shades, etc.

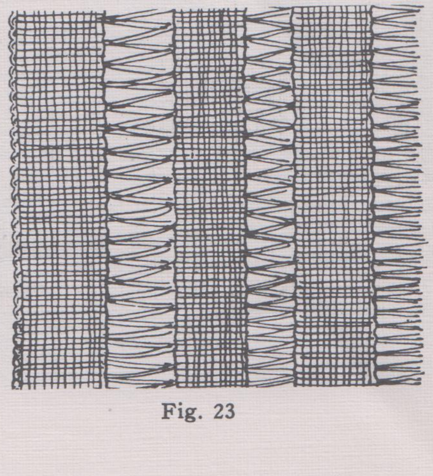


Fig. 23

OVERLOCK STITCH—Fig. 24

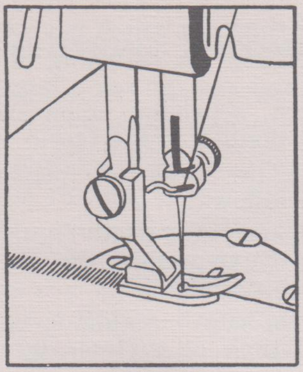


Fig. 24

1. Set the machine to produce a satin stitch. See Page 14.
2. Place raw edge of fabric under presser foot.
3. Start sewing. Check to see whether the needle bites close to the raw edge of the open space and then into the material itself.

NARROW STRAIGHT STITCH HEM—Fig. 25

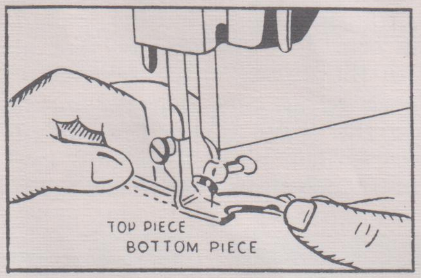


Fig. 25

There is a narrow hemmer in the accessory box.

1. Remove presser foot and attach narrow hemmer to presser bar. Leave presser bar in RAISED position.
2. Move zigzag stitch width regulator lever, (B) Fig. 17, to No. 0.
3. Set stitch length regulator knob (F) Fig. 17, at No. 4.
4. Place corner of raw edge to be hemmed directly under the needle. Turn hand wheel forward to insert needle into this corner of material. Presser bar must still be raised. With the right hand pull the material up into the scroll. Lower the presser bar. With your left hand grasp the upper and bottom threads, at the rear of the hemmer, and start your machine. Sew for an inch or two, at the same time pulling the material by the two threads and feeding material into the scroll tongue. The scroll tongue of the hemmer turns in the raw edge and forms a narrow hem.

CAUTION: If you feed too much material into the scroll edge you will have an irregular finished hem; if too little material is fed into the scroll edge you will turn a hem but it will have a raw edge. To eliminate either of the above, guide only enough material through the scroll to turn under the raw edge and make a nicely finished hem.

NARROW ZIGZAG HEM—Fig. 26

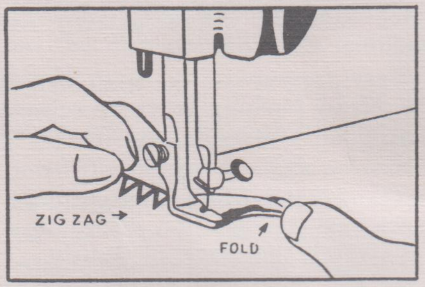


Fig. 26

Proceed as outlined above, except that in step 2 above, move zigzag stitch width regulator lever, (B) Fig. 17, to No. 2.

FLAT FELLED SEAMS—Fig. 27

1. Remove presser foot and attach narrow hemmer to presser bar.
2. Move zigzag stitch width regulator lever, (B) Fig. 17, to No. 0.
3. Set stitch length regulator knob (F) at No. 4.
4. Raise presser bar. Place two pieces of material together — with their "right" sides facing each other. Allow the bot-

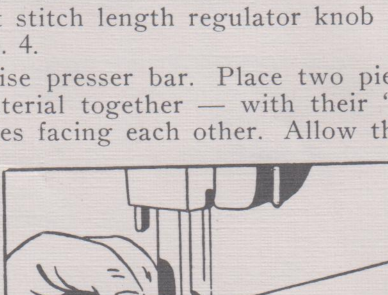


Fig. 27

tom piece of material to protrude to the right about one-eighth of an inch beyond the top piece of material.

5. Lower presser bar and stitch both pieces of fabric together on a line parallel to right edge of top piece of material as close to the edge as possible.
6. Raise presser foot and take out seamed material.
7. Open and flatten out the material on the machine, with the "right" sides down and the edges of fabrics standing up.
8. Lift hemmer to a raised position, then allow the one-eighth inch of material which is protruding, to enter the scroll edge of the hemmer.
9. Lower the presser bar and sew as in "Narrow Straight Stitch Hem," page 17.

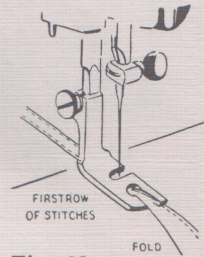


Fig. 28

PATCHING WITH A ZIGZAG STITCH

1. Move zigzag stitch width regulator lever, (B) Fig. 17, to No. ½.
2. Set stitch length regulator knob (F) at No. 2.
3. Place the patch over the hole and sew the patch on to the garment. This stitch is almost like a regular machine stitch but is strong, and it resists ripping. Now trim off the projecting edges of material. Move the zigzag stitch regulator lever (B) to No. 2, while leaving the stitch length regulator knob at No. 2 and sew a zigzag seam over the wavy zigzag stitch.
4. When completed cut out damaged piece on the reverse side.

MENDING ELASTIC KNITWEAR

1. Move zigzag stitch width regulator lever, (B) Fig. 17, to No. ½.
2. Set stitch length regulator knob (F) at No. 1.
3. Place the grain of the patch to be inserted in the same direction as the grain of the garment. Now stitch along this patch with the small wavy zigzag stitch. When finished, trim off the outer edges of the patch. Now move the zigzag stitch width regulator lever to No. 2 while leaving the stitch length regulator knob at No. 1 and sew with this wider zigzag stitch directly over the first wavy seam.

REPAIRING SLIT IN MATERIAL

1. Move zigzag stitch width regulator lever, (B) Fig. 17, to No. 3 or No. 4, depending on the width of slit to be stitched.
2. Set stitch length regulator knob (F) at No. 2.
3. Sew directly down the slit with this zigzag stitch. You may go over it twice to doubly reinforce the mend.

MAKING BUTTONHOLES

1. Place straight stitch pattern disc on machine (see Fig. 20).
2. Remove regular hinged presser foot and attach buttonhole foot, Fig. 29.
3. Set zigzag stitch width regulator lever stops, (D) Fig. 17, at 1 and 4½ and lock in position by tightening thumb screw lock (C) Fig. 17.
4. Set stitch length regulator knob (F) Fig. 17 as close to No. 0 as possible, but still permitting the material to feed through the machine from front to back.
5. Use a pencil to mark on the material the exact length of buttonhole desired.
6. Place the material under the buttonhole foot and sew from one end of the buttonhole to the other, stopping with the needle in the right hand position in the material (See Nos. 1 and 2, Fig. 29).
7. Raise the presser bar lifter and turn the material end for end, using the needle as a pivot. Then lower the presser bar.
8. Lift the needle from the material by turning the balance wheel by hand. Turn drop feed knob (Fig. 11) to "Drop" position.
9. Move zigzag stitch width regulator lever, (B) Fig. 17, to the left, against stop (D) and hold in position while making 5 stitches to form the end of the buttonhole, No. 3, Fig. 29. Stop the machine with the needle in the left hand position in the material.
10. Raise the presser bar slightly and move the zigzag stitch width lever to the right against stop (D) Fig. 17. Lower the presser bar and turn drop feed knob to "Feed" position.
11. Proceed to sew down the other side of the buttonhole, No. 4, Fig. 29. When reaching the exact end, even with oppo-

site side, stop with the needle in the left side of the stitching. Turn drop feed knob to "Drop" position. Raise the presser bar slightly and move the stitch width regulator lever to the left, against stop (D) and hold in position.

12. Lower the presser bar and take 4 stitches to form bar at finished end of buttonhole. See No. 5, Fig. 29. Stop with the needle out of the material.
13. To lock stitch and prevent raveling, loosen lock (C) Fig. 17, and move zigzag stitch width lever to 0 and make 3 or 4 stitches.
14. Remove the material and cut between the lines of stitching using the buttonhole cutter, a razor blade or buttonhole scissors.

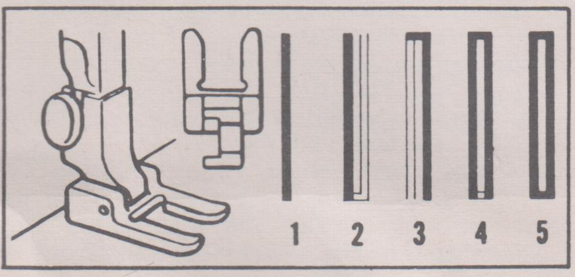


Fig. 29

SEWING ON BUTTONS

1. Remove hinged presser foot and attach button sewing foot, see Fig. 30.
2. Move zigzag stitch width regulator lever (B) Fig. 17, to No. 4.
3. Turn drop feed knob (J) Page 2, to "Drop"
4. With the button sewing foot in a raised position place button between button sewing foot and fabric so that the holes of the button line up with the needle, as shown in Fig. 30. Turn hand wheel toward you and test to see if the needle enters center of each hole. If not, adjust the zigzag stitch width regulator lever by moving lever to right or left until the needle clears each hole.
5. When needle goes into the center of each hole, then run the machine at medium speed, making five or six stitches.
6. To lock the zigzag stitch and prevent raveling, set the zigzag stitch width regulator lever at No. 0 and by hand, turn the hand wheel toward you to make sure needle goes into center of the hole. If it clears, then make a few straight stitches in the same hole.
7. If you wish you may place a rounded toothpick over the button, between the two holes, and sew button to fabric in regular way. Remove the toothpick and the button will be loosely attached. Pull button up and wind thread around the threads holding the button, forming a stem.

NOTE: If a four hole button is to be sewn, follow the same procedure above for the two hole button. Now lift presser foot slightly and move fabric to permit stitching the remaining two holes.

Hooks, snaps, etc., are sewn to the fabric with the same procedure as for sewing two hole button.

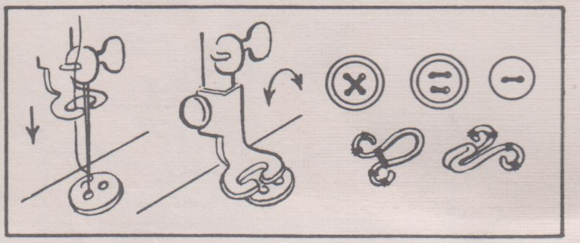


Fig. 30

ZIGZAG EMBROIDERY

1. Place the design to be embroidered between the two sections of an embroidery loop.
2. To sew, remove the pressure from the presser bar by releasing the snap-lock darner. Press (B) Fig. 12.
3. Lower the feed by turning the drop feed knob, (J) Page 2, to "Drop".
4. Remove the presser foot, (N) Page 2.
5. Place the embroidery hoops under the needle and lower the presser bar, (X) Page 2.
6. Use a fine needle.
7. Set the levers for a wide satin stitch. See "Satin Stitch," Fig. 19, Page 14.
8. Hold hoop and needle thread with left hand, turn top of balance wheel slowly toward you with right hand and bring lower thread up through fabric in hoop. While still holding both threads and hoop in left hand, bring right hand to hoop and start running machine at medium speed. Guide hoop slowly in steady rhythm coordinated with movement of needle. Start sewing at outer edge of design, turning hoop so that the stitches are formed in the same direction as the grain of the petal or leaf. To be able to

get this correct angle of stitches will require a little practice, but once the knack is acquired, you will be able to produce many beautiful designs. After stitching around the edge, fill in toward the center.

BLINDSTITCHING AUTOMATICALLY

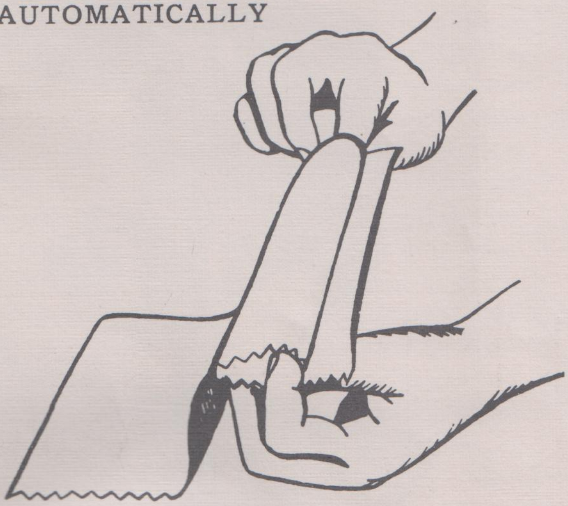


Fig. 31

1. Place blind stitch pattern disc on ratchet shaft (see instructions Page 15).
2. Loosen thumb screw lock (C) Fig. 17.
3. Turn up width of hem desired. Press just along the fold of the hem.
4. Stitch seam binding to edge of hem in regular manner.
5. With the wrong side of the garment facing you, and with the bulk of the material nearest you, turn the width of the hem under (or away from you), and crease it, permitting the two right sides to be together. Then bring hem back again, allowing one quarter inch of the seam binding to protrude beyond the crease which you have just made in the material. See Fig. 31. Pin in place with pins at right angles to the edge.
6. Place garment under presser foot so that the bulk of your material is to your left and so that the needle will stitch on the protruding one quarter inch of seam binding on hem close to the fold.
7. Start to sew and check to see that every fifth stitch catches in the folded side of material.

RUFFLING, GATHERING AND SHIRRING

Gathers are made in soft fabrics where fullness must be taken up into a small space. They provide necessary fullness and also are decorative. For heavier fabrics, pleats and tacks are used. Gathers and ruffles are most satisfactory when sewn on bias and crosswise threads.

GATHERS

1. Set machine for straight sewing—zigzag lever (B) Fig. 17 at No. 0.
2. Set stitch length knob (F) at No. 8 for longest stitch. It is advisable to use 2 or more rows of stitching approximately ¼" apart.
3. Pull threads to top side of material at each end of stitching and twist the threads together.
4. Hold the ends of the thread securely in the right hand and slide material on the threads for desired fullness.

STROKING GATHERS

Use needle or pin across folds to straighten material under gathering and to space gathers evenly.

SHIRRING

Shirring is gathering done with 3 or more parallel lines of gathering.

RUFFLES

Ruffles are gathered strips of varying widths used as trimming. Fullness is most often about 1½ times space into which ruffle is to be sewn. Cut out strips and sew both ends together to get piece of desired sizes. Finish lower edge or ruffle with narrow hand rolled hems picoting, lace, binding, etc.

MACHINE RUFFLER

If the operator prefers, a machine ruffler is available (Stock Number A1). With a little practice, marvelous results can be achieved with a machine ruffler which ruffles and stitches the ruffle to the garment at the same time.

MAINTENANCE

OILING YOUR MACHINE

For an easy running machine, proper oiling is of the utmost importance. When in continuous use the machine should be oiled every day; for moderate use, an occasional oiling is satisfactory.

To reach the parts inside the arm, take off the arm cover plate by opening the hinged face plate (A) Fig. 34 and loosening thumb screw (B) Fig. 34. The top cover plate (C) Fig. 34 may then be removed. Apply oil to the oil holes indicated by the arrows in Fig. 32. Now turn the hand wheel and apply two drops of oil to all moving parts exposed through the opening, replace arm cover plate and tighten thumb screw.

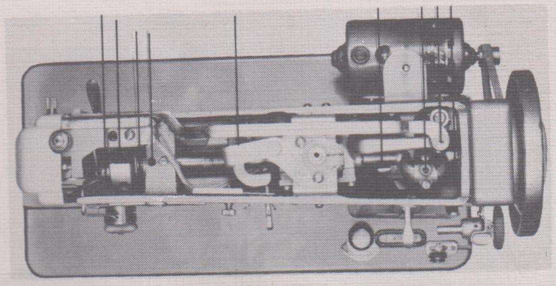


Fig. 32

The face plate opens sideways on hinges making inspection, oiling and cleaning easy. See Fig. 34. Oil all moving parts.

To oil parts under bed of machine, tip the head back on its hinges and oil all moving parts. See Fig. 33.

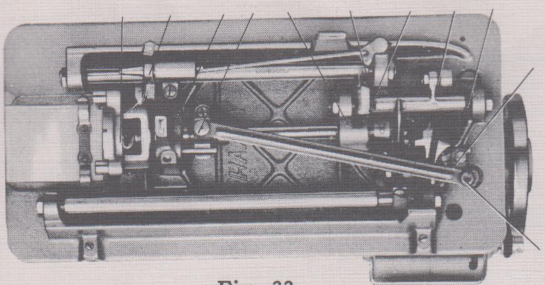


Fig. 33

TO TIGHTEN MOTOR BELT

See Fig. 17

Loosen motor bracket screw (L) and move bracket (J) down in slot (K), then tighten screw.

TO ALIGN MOTOR BELT

1. **Loosen set screw on motor pulley, (I) Fig. 17.**

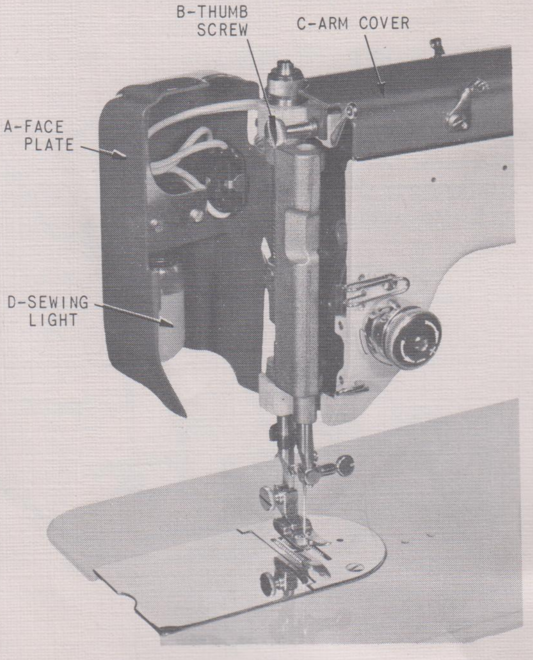


Fig. 34

2. Adjust pulley out or in on motor shaft so that belt runs in straight line from motor pulley to hand wheel.
3. Then tighten motor pulley set screw.

LUBRICATING MOTOR

This machine is equipped with a precision made motor. The motor shaft revolves in permanently oil impregnated cast bronze bearings. **No Lubrication is Required.**

OILING THE SHUTTLE RACE

The shuttle race is one of the most important oiling spots on your machine. Put a drop of oil in spot indicated by arrow in Fig. 40. This should be done before you begin sewing each time you use your machine.

REPLACING THE SEWING LIGHT BULB

The sewing light is mounted inside the hinged face plate. To replace the bulb, open the face plate (A) Fig. 34. This will expose the bulb (D) for easy removal and replacement in its screw base socket.

REGULATING THREAD TENSIONS

THREAD TENSION IS AUTOMATIC AND RARELY REQUIRES ADJUSTMENT EVEN WHEN SEWING MATERIAL OF DIFFERENT THICKNESSES. Note that for ordinary sewing the needle- and bobbin threads should be locked in the center of the seam of the materials as illustrated, Fig. 35. Too tight a tension on the needle thread, OR too loose a tension on the bobbin thread will produce a stitch with the needle thread lying in a straight line along the upper surface of the material as illustrated, Fig. 36. Too tight a tension on the bobbin thread, OR too loose a tension on the needle thread will produce a stitch with bobbin thread lying on a straight line along the under side of the material as illustrated, Fig. 37. Normally most adjustments will be made on the needle thread tension control, Fig. 38, not the bobbin tension.

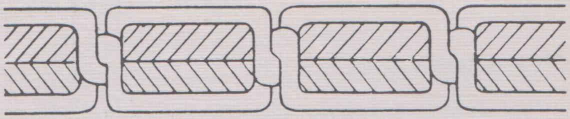


Figure 35

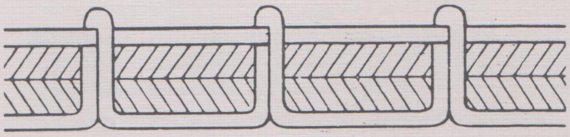


Figure 36

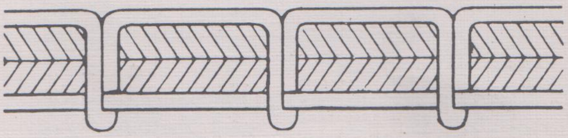


Figure 37

NEEDLE THREAD TENSION

The presser foot must be in the down position to regulate tension on the needle thread. The tension regulator knob, (B) Fig. 38, controls the varying degrees of tension which can be produced on machine.

a) TO INCREASE TENSION—turn knob of tension regulator clockwise.

b) TO DECREASE TENSION — turn knob of tension regulator counter-clockwise.

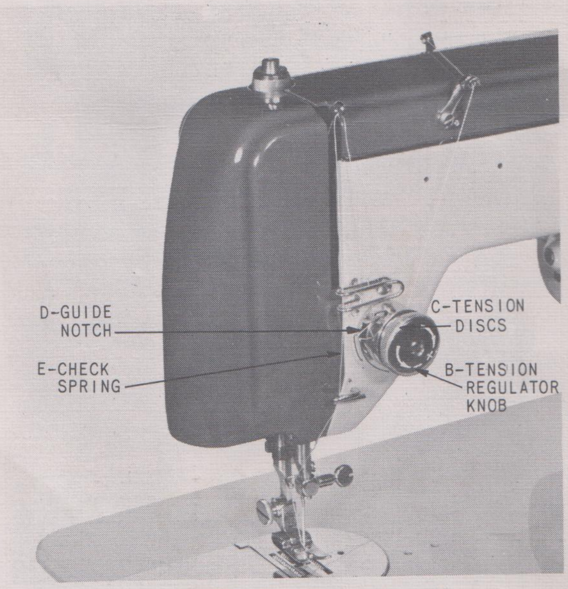


Fig. 38. Needle Thread Tension

BOBBIN THREAD TENSION

This is always permanently set at factory and under ordinary use must never be changed. When the bobbin thread tension has once been properly adjusted, changes are seldom necessary, as change of needle tension on top control normally produces the correct stitch. Bobbin thread tension is regulated in the following manner: To increase tension, turn screw, (0) Fig. 39, located on the bobbin tension spring, to the right. To decrease tension, turn screw to the left.

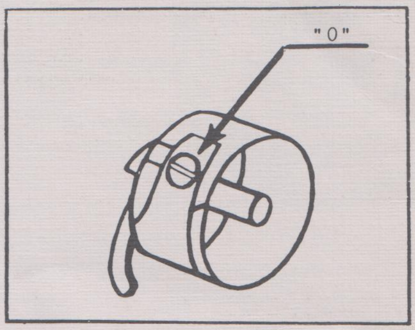


Fig. 39

HELPFUL HINTS

A JAMMED SHUTTLE

The stitch forming mechanism occasionally becomes clogged with loose threads and lint. This will interfere with the efficient operation of the machine. This situation can easily be remedied by removal and cleaning of the shuttle assembly. Cleaning and removal of the lint will safeguard the performance of the machine. To remove the shuttle assembly proceed as follows:

1. Turn the balance wheel until the needle reaches its highest position. The shuttle will assume the position illustrated in Fig. 40.
2. Remove bobbin case as described in "Removing Bobbin Case and Bobbin" (see Page 4).
3. Press down on the two spring loaded shuttle race cover clamps, (C) Fig. 40, and remove the shuttle race cover (B) and shuttle body (A).
4. Clean the shuttle race as well as the shuttle body and shuttle race cover by removing all threads, lint, etc.

When the cleaning has been completed, proceed as follows to replace the shuttle assembly:

1. Turn the balance wheel until the needle reaches its highest position.
2. Place shuttle body, (A) Fig. 40, on pin of shuttle driver and adjust into position.
3. Replace shuttle race cover (B) and lock into position with shuttle race cover clamps (C), making certain the clamps have been snapped securely into position.
4. Put bobbin into bobbin case, see Chapter "Threading the Bobbin Case," page 5.

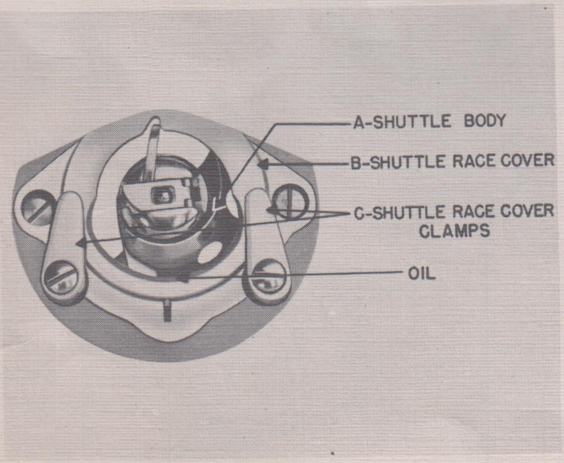


Fig. 40

MACHINE RUNS HEAVILY

The use of inferior oil is often the cause of the machine working heavily or it may be caused by other reasons as follows:

A. Motor belt too tight or has jumped off pulley or hand wheel.
B. Bobbin winder not released, running while sewing.
C. Thread caught in shuttle race.
D. Machine lubricated with unsuitable, gummy oil. Pour a few drops of kerosene into each oil hole and run machine for a few minutes. Then lubricate with proper sewing machine oil.

MACHINE MAKES LOOSE STITCHES —LOOPS ON UNDERSIDE OF MATERIAL

This may be caused by:

A. Machine not threaded properly.
B. Presser foot not down completely.
C. Insufficient tension on needle thread.
D. Thread check spring, (E) Fig. 38, bent or broken.
E. You may have POOR STITCHES AND BAD LOOKING SEAMS FOR the following reasons:
    a. Improper needle for size of thread, see page 7.
    b. Thread wound unevenly on bobbin.
    c. Upper thread tension too tight or too loose.
    d. Bobbin thread too coarse. Should be same as needle thread.
    e. Needle thread too coarse for material.
    f. Needle not suited for material.
    g. Needle point damaged.

UNEVEN THREAD TENSION may be caused by poor quality thread.

MATERIAL WRINKLES

This may be caused by:

A. Improper needle for size of thread, see page 7.
B. Needle thread tension too tight.
C. Bobbin thread tension too tight for material used.
D. Presser foot pressure too great.

MACHINE JAMS OR CLOGS

This may be caused by:

A. Machine not properly threaded.
B. Sewing without material.
C. Sewing with the stitch length regulator knob, (F) Fig. 17, set at No. 0—not allowing the material to move.

MACHINE DOES NOT FEED PROPERLY

A. Make sure stitch length regulator knob, (F) Fig. 17, is not on No. 0.
B. Make sure the drop feed knob, (J) Page 2, is turned to "Feed" position.
C. The pressure of the presser foot may be insufficient. Increase the pressure by pushing snap-lock darner, (A) Fig. 12.

MACHINE STOPS WHILE SEWING

Make sure the stop motion knob (Fig. 7) has been tightened sufficiently.

IF THE BOBBIN DOES NOT WIND PROPERLY

This may be caused by:

A. Machine not threaded correctly for winding.
B. Thread jumped out of thread guide disc, (E) Fig. 2.
C. Misalignment of thread guide disc. See instructions "Winding the Bobbin," Page 4.

NEEDLE THREAD BREAKS

This may be caused by:

A. Incorrect needle length, see page 6.
B. Needle too fine for thread used, see page 7.
C. Needle bent or needle point broken.
D. Needle inserted incorrectly.
E. Needle not threaded properly.
F. Tension of needle thread too tight.
G. Knots in thread.
H. Stitch hole in needle plate rough or sharp.
I. Poor quality thread.
J. Needle rubbing against attachments or presser foot.
K. Starting machine at full speed.

BOBBIN THREAD BREAKS

This may be caused by:

A. Bobbin case inserted incorrectly.
B. Bobbin thread tension too tight.
C. Bobbin wound unevenly.
D. Bobbin wound too full.
E. Poor quality thread.
F. Stitch hole in needle plate rough or sharp.
G. Bobbin thread not brought up correctly.
H. Incorrect threading of bobbin case.

NOTE: If the bobbin thread cannot be pulled up the needle is probably inserted incorrectly.

NEEDLE BREAKS

This may be caused by the following:

A. Using incorrect length of needle, see page 6.
B. Needle bent (insert new needle).
C. May be using incorrect size needle or thread for material being sewn. See page 7.
D. Presser foot or attachments not securely fastened to presser bar.
E. Pulling material from behind needle while sewing.
(Do not help machine feed material.)

NOTE: **To avoid breaking needles,** be sure that the presser foot or attachments are securely fastened by the thumb screw. Do not sew heavy seams, or very thick goods with too fine a needle. A correspondingly large needle and thread should be used on heavy work. See that the needle is not bent and avoid pulling when stitching. Do not move zigzag stitch width regulator lever with the needle in the material when the machine is not running.

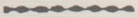
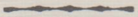
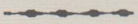
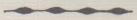
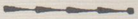
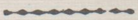
MACHINE SKIPS STITCHES

This may be caused by:

A. Using incorrect length of needle, see page 6.
B. Bent or blunt needle.
C. Needle inserted incorrectly.
D. Needle threaded improperly.
E. Thread too heavy for needle.
F. Pressure of presser foot insufficient, especially when sewing on heavy material.

ATTACHMENTS, ACCESSORIES AND REPLACEMENT PARTS

NAME OF PART	Part Number
Needles (Pkg. of 12 assorted sizes)	2270
Needles (Pkg. of 24 assorted sizes)	2271
Oil	W1049
Tension Spring	1072
Bobbin (Pkg. of 6)	1557
Bobbin case complete	1550
Bobbin case tension spring	1554
Bobbin case tension spring screw	S551
Bobbin case cover plate, hinged	1251
Bobbin winder rubber ring	1352
Check spring (Thread take-up)	4060
Electric cord and block for Portable	107
Electric cord and block for Cabinet	109
Electric foot control for Portable	106
Electric knee control for Cabinet	110
Motor Brush	155
Motor Brush Spring	156
Motor Brush Spring cap	157
Motor V Belt	282
Motor Pulley for V Belt	228
Needle clamp	1203
Needle clamp thumb screw	S201
Needle plate	4250
Presser foot—Zigzag	3156
Presser foot for buttons	3901

NAME OF PART	Part Number
Presser foot for buttonholes	4190
Darning Foot	4195
Hemmer Foot (Narrow Hemmer)	3907
Zipper and Cording Foot	4194
Binder	4196
Presser foot screw	S153
Sewing light bulb	2263
Spool pin	4400
Straight stitch pattern disc	2182-4-1
Pattern disc 	2182-4-2
Pattern disc 	2182-4-3
Pattern disc 	2182-4-4
Pattern disc 	2182-4-6
Pattern disc 	2182-4-7
Pattern disc 	2182-4-10
Blind stitch pattern disc	2182-4-8
Ruffler	A1
Tucker	A2
Hemmer 3/16" *	A3
Hemmer 1/4" *	A4
Hemmer 3/8" *	A5
Hemmer 5/8" *	A6
* Attachment Foot (Required to Assemble Above to Machine)	A12
Shirrer	A13

ATTACHMENTS, ACCESSORIES AND REPLACEMENT PARTS

NAME OF PART	Part Number
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Needle clamp thumb screw	S201
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Binder	4196
Presser foot screw	S153
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Spool pin	4400
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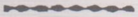
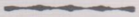
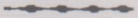
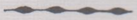
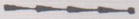
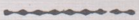
Pattern disc 	2182-4-2
Pattern disc 	2182-4-3
Pattern disc 	2182-4-4
Pattern disc 	2182-4-6
Pattern disc 	2182-4-7
Pattern disc 	2182-4-10
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Hemmer 5/8″ *	A6
* Attachment Foot (Required to Assemble Above to Machine)	A12
Shirrer	A13

FOR YOUR PROTECTION

Complete service and repair parts are always available for Penney's sewing machines. Furthermore this sewing machine is guaranteed against manufacturing defects in material and workmanship. The electrical parts are guaranteed for a period of one year from date of purchase.

J. C. PENNEY COMPANY, INC.

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